DIN 18041:2004-05 (E)

Acoustical quality in small to medium-sized rooms

Contents

Page

Foreword 3

1 Scope 4

2 Normative references 4

3 Terms and definitions 5

4 Requirements for acoustic quality over medium and large distances (group A rooms) 9
4.1 General 9
4.2 Building acoustics requirements 10
4.2.1 Background noise 10
4.2.2 Structural noise control 11
4.3 Room acoustics parameters 11
4.3.1 Volume index 11
4.3.2 Reverberation time 11
4.4 Room geometry 14
4.5 Electro-acoustic sound systems for spoken presentations 15
4.5.1 Selection criteria 15
4.5.2 Direct sound amplification by means of electro-acoustic sound systems 17
4.5.3 Announcement systems, alarm systems 17
4.5.4 Sound systems for the hearing impaired 17

5 Measures to ensure high acoustic quality over medium and larger distances (group A rooms) 18
5.1 General measures 18
5.1.1 Spatial arrangement of rooms 18
5.1.2 Noise in the room that is being used 18
5.2 Specific design measures 18
5.2.1 Small rooms with volumes up to about 250 m^3 18
5.2.2 Medium-sized rooms and small halls with volumes from about 250 m^3 to 5 000 m^3 20
5.2.3 Special cases 22

6 Recommendations and measures to ensure acoustic quality in rooms over smaller distances (group B rooms) 22
6.1 General 22
6.2 Measures 22

Annex A (informative) **Terms relating to speech intelligibility** 25

Annex B (informative) **Describing the sound absorption of materials, structures, objects and people (examples)** 28

Annex C (informative) **Measures for improving speech intelligibility for the hearing impaired** 30

Annex D (informative) **Spoken communication** 33

Bibliography 35